

# Children vs. adults in second-language learning

## 6.1 Children are better: a common belief

Most people believe that children are better than adults in learning a second language. This seems to be backed up by the common observation that young second-language learners seem to pick up another language quickly, just by exposure and without teaching. Whether this is truly the case is the focus of this chapter.

Factors involved in second-language acquisition can be divided into two categories: (1) psychological, and (2) social.

1. **Psychological.** In this section, we shall consider: *intellectual processing*, which is involved in an individual's analytical determination of grammatical structures and rules; *memory*, which is essential if language learning is to occur and remain; and *motor skills*, which concern the pronunciation of the sounds involved in the second language, i.e. the use of the articulators of speech (tongue, lips, mouth, vocal cords, etc.). We shall further consider the role of *motivation* and *attitude* regarding the learning of a second language. In Chapter 8, we will consider how the similarity between a first language and the target second language can affect learning, also known as transfer problem.
2. **Social.** The types of situations, settings, and interactions which an individual experiences can affect the learning of a second language. Thus, we will be concerned with where and with whom exposure to the second language occurs. In particular, the *natural* situation (family, play, workplace) in contrast to the *classroom* situation will be focused on. In addition we will consider whether the second language is learned in a foreign community (the EFL situation), or in the community of the first language (the ESL situation).

## 6.2 Basic psychological factors affecting second-language learning

### 6.2.1 Intellectual processing: explication and induction

Essentially, there are only two processes by which one can learn the syntax of a second language: someone can explain rules to you, *explication*, or you can figure them out for yourself, *induction*.

#### 6.2.1.1 Explication

##### The nature of explication

Explication is the process whereby the rules and structures of a second language are explained to a learner. This explanation is given in the first language of the learner. The learner is then expected to understand, learn, and apply the rule in the second language.

##### Why a language cannot be learned completely by explication

While parts of a second language can be learned by explication, it is impossible for it to be learned entirely by explication. This is because not all of the rules of any one language have been discovered and written down. Even for a language such as English, the most researched of all languages, one still finds linguistic journals discussing the concepts involved in such commonplace features of English as tense and the article.

##### Explication is rarely applicable to young children

Explaining is rarely done by parents or others when children acquire a native language, yet children by the age of 4 or 5 can understand and speak most of their native language quite well. They have learned language by self-analysis, induction. You do not hear a parent saying: 'Now, Mary, to make the plural of "dog" you add a "z" sound to the end of the word, while with "duck" you add an "s" sound. You do this, Mary, because the last sound of "dog" has a voiced consonant and the last sound of "duck" has an unvoiced one.' Similarly, parents do not tell their children that, in order to negate a sentence like 'John wanted some chocolate ice cream', the negative marker, 'not', must occur before the verb, 'do' must appear before the NEG, the tense on the verb must be shifted on to the 'do', so that do + PAST becomes 'did', and 'some' must change to 'any' for agreement, so that the sentence 'John did not want any chocolate ice cream' will be the result. Even college students taking linguistics courses can find such explanations daunting!

##### Teaching simple and complex rules

However, rules that are simple can be learned by explication without much difficulty. An example of teaching a simple rule would be a case in which

a mature Korean speaker studying English would be told that there is a Subject + Verb + Object order of constituents (Korean has S–O–V). On the basis of such a description, a learner can learn relevant usable rules, though they may need practice before the rules can be applied with any speed or reliability. In such cases, explication may even be a faster means of learning than induction, since induction requires that a learner be repeatedly exposed to words, phrases, and sentences along with relevant situations that give some indication as to their meaning. Robinson (1996), for example, found that explication improved the learning of simple Subject–Verb rules.

### 6.2.1.2 Induction

Learning rules by self-discovery is the essence of the process of induction. The child who is exposed to second-language speech and remembers what he or she has heard will be able to analyze and discover the generalization or rule that underlies that speech. Actually, not only must the learner devise the rule based on the speech that has been heard, but he or she must also figure out how those rules are to be applied in other cases. For example, given the sentences ‘John danced then John sang’ and ‘John danced and then he sang’, spoken in relevant situations, the learner can determine that the two sentences are related, with ‘he’ being a replacement for ‘John’. The learner must also figure out that while ‘he’ can replace ‘John’ in the second of the conjoined sentences, it cannot do so in the first sentence (as in ‘He danced then John sang’) since in that case the pronoun ‘he’ must refer to someone other than John. With such a rule, the learner is on the way to being able to use and understand increasingly complicated structures involving pronominalization. Such phenomena as pronominalization, negation, and the plural are learned by induction and become part of a young native speaker’s language knowledge quite early, long before the child enters school.

The second-language learner is always trying to figure out language by induction. This is simply the natural thing to do. So long as the structures involved are not far beyond the learner’s level of syntactic understanding, there is a good chance that the learner can discover the rules by self-analysis.

## 6.2.2 Memory

### Vocabulary learning and rote memory

Memory is crucial to learning. It is inconceivable that a person with a severe memory impairment could ever learn his or her native language, much less a second language. The learning of the simplest word requires memory. A person learning the word ‘dog’, for example, must retain a connection between the hearing of ‘dog’ and the experience of seeing, touching or smelling

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a dog. Such a connection between the sound and the object is arbitrary. There is no logical relationship between the sound 'dog' and its meaning. Usually more than one occurrence of the sound and meaning is necessary for learning.

The greater the number of related occurrences needed for learning, the poorer a person's memory. Second-language learners and teachers are forever talking of practice and review. The reason that practice and review is necessary at all is because of some lack in memory ability.

## Syntax learning and episodic memory

Memory is similarly crucial for the learning of grammatical structures and rules. For example, in order to determine the type of questions that require 'do' (as in 'Do you want some candy?' but not in 'Is the dog barking?'), how to negate sentences, how to use politeness structures ('Please close the door', 'Would you please close the door?', 'Would you be so kind as to close the door?'), etc., memory is essential.

It is only through memory that a learner can accumulate the vast amount of speech and *relevant situational data* that serves as the basis for analyzing structures and formulating rules. It is not enough to remember whole phrases and sentences, the learner must also remember the situations in which these sentences were uttered in order to derive the meaning of those phrases and sentences and their syntax. The type of memory that involves situations is what Tulving (1983) and others refer to as 'episodic memory'. Thus, for example, outside the classroom, the degree of politeness of an utterance must be determined from the situation in which it occurs. The learner must note who is talking to whom and what their status is. This information must be remembered and associated with the different expressions, e.g. 'Please close the door', 'Would you please close the door?', 'Would you please be so kind as to close the door?'

## Children's memory ability

Children under 7 years display a phenomenal ability at rote memorization. Older children, however, do not, with some decline beginning around 8 years of age and with more of a decline from about 12 years of age. Harley and Doug (1997) investigated students who were in an immersion language education programme (the teaching of subject matter through a second language). Older children began to apply their cognitive abilities in analyzing the syntactic rules of the second language while younger children relied more heavily on their use of rote memory for language learning. One could interpret these data as indicating perhaps that the older children jumped to syntactic analysis sooner because they realized that they had difficulty in remembering all of the sentences that they heard. In this regard, it seems that children's ages can be usefully divided into at least two categories,

under 7 years and 7 to 12 years. This is the rough categorization that we shall use.

### 6.2.3 Motor skills

#### Articulators of speech

Good pronunciation is clearly an important part of learning a foreign language. The better our pronunciation, the better we can communicate with others. The creation of speech sounds is related to the ability to control the muscles that manipulate the organs of speech. Motor Skills is a term that psychologists use to describe the use of muscles in performing certain skills, from general ones like walking to fine ones like writing and speech. The Motor Skills that are involved in speech utilize what linguists call the articulators of speech. These include the mouth, lips, tongue, vocal cords, etc., all of which are controlled by muscles that are under the general control of the brain. The articulators of speech have to do the right thing at the right time (open the mouth in a certain way, position the lips and tongue in a certain way, etc.), if one is to utter sounds accurately.

#### Decline in general motor skills

We all recognize that to be able to attain a high level of proficiency in a motor skill, e.g., gymnastics, skating or piano playing, one should start young. But why? Because somewhere around the age of 12 years, the ability to acquire new motor skills begins to decline. The reason for this decline in the fine control of the muscles of the body is as yet unknown, although, since the decline is of such a general nature, involving many muscle groups, it seems likely to be due to some change in central functioning in the brain. Hormonal changes prior to puberty may have something to do with this but this is only speculation on our part.

#### Decline in ability for new articulations

As we age and as our ability to acquire new motor skills declines, our ability to command our articulators of speech is negatively affected. Consequently, we can expect that children will do much better in the pronunciation of a second language than adults because children have the flexibility in motor skills that adults generally have lost.

A number of studies have demonstrated that the earlier the age at which acquisition of the second language begins, the more native-like the accent will be (Asher and Garcia, 1969; Oyama, 1976; Tahta *et al.*, 1981). The Oyama study of Italian immigrants, for example, showed that the younger the children, the more native-like would be their pronunciation. The subjects were 60 Italian-born male immigrants who lived in the greater New York metropolitan area. The subjects were categorized according to 'age at

arrival in the United States’ (6 to 20 years) and ‘number of years in the United States’ (5 to 20 years). It was found that the younger arrivals performed with near-native English pronunciation while those who arrived after about the age of 12 years had substantial **accents**.<sup>1</sup> Length of stay had little effect.

6.2.4 Summary of three important psychological factors affecting second-language learning

Let us now summarize the effects on second-language learning of the various psychological variables. In Table 6.1, three basic psychological categories are represented: Intellectual, which is subdivided into Inductive and Explicative; Memory; and Motor Skills. Along the left margin of the table, persons are divided into three age groups: Children under 7, Children 7 to 12, and Adults over 12.

- **Induction.** We can see that insofar as Induction is concerned, this ability remains at a relatively high level with age, except with certain individuals in old age. Such an ability allows us to make new discoveries in our

Table 6.1 Important psychological and social factors affecting second-language learning for children and adults

	Psychological factors				Social factors	
	Intellectual				Situation	
	Inductive	Explicative	Memory	Motor Skills	Natural	Classroom
Children under 7	High	Low	High	High	High	Low
7–12	High	Medium	Med/High	Med/High	Medium	Medium
Adults over 12	High	High	Medium	Low	Low	High

<sup>1</sup> The authors observed the same phenomenon in their own families. The first author’s father and his brothers came from Russia to Canada before the Communist revolution; however, only the youngest brother, who was 10 to 11 years old, picked up perfect Canadian English. All of the brothers, including the first author’s father, who was 17 years old when he came, always spoke English with a heavy Russian accent (as did all of the other brothers, who were older than he was). As a child, the first author was amazed that the brothers could be of the same family. The second author started to learn English as a Foreign Language in her native Russia at the age of 7 in a classroom environment before moving to the United States at the age of 33. At present, while her writing skills are good, she still speaks English with a Russian accent. However, her son, who was only 9 years old when they came, took only a year to pick up accentless English!

everyday life, even to the extent of being able to analyze the syntactic structures of a second language. Thus the assignment of *High* for each age category.

- **Explication.** We see that this ability increases with age. Young children would have great difficulty in understanding abstract and complex explanations about a second language. We thus see a rise from *Low* to *High* on this variable.
- **Memory.** This is an ability in which very young children are *High*. Such an ability, though, declines with age and so we have assigned a *Medium/High* value for ages 7 to 12 and a *Medium* value for Adults. One might want to assign a lower value to adults because of the great age range involved. For simplicity's sake, we made only one category of adults. Certainly we would expect a difference in the memory ability of teenagers (13 to 19 years) as compared to persons in their thirties or forties.
- **Motor Skills.** The table indicates a general decline from a *High* for young children to *Low* for adults. These data reflect what research (discussed in a later section) indicates about pronunciation proficiency. It is difficult for most adults to achieve native-speaker pronunciation. While adults may greatly improve their bowling, golf, or their billiards (these are *perceptual-motor* skills – a combination of perception and motor skills), most of these people will not be able to improve their pronunciation (a *pure* motor skill).

## 6.2.5 Two other important psychological variables: motivation and attitude

### 6.2.5.1 Motivation

A number of factors that affect second-language learning operate only in certain types of situations. The question of motivation for learning a second language, for instance, is not likely to arise in a natural type of setting such as with a young child. A 1- or 2-year-old needs no motivation to learn a second language; given language input, the young child will automatically learn – with learning even occurring in negative circumstances. An older child of 4 or 5 years, however, may need motivation in order to learn a second language since by that age the child may be aware of whether a language is positively or negatively regarded by others, or the child may prefer other activities.

The planned learning situation such as the classroom, however, presents a very different problem. There is an element of choice involved in attending class, listening to the teacher, participating in activities, and in doing assignments. The amount of exposure that one receives and the amount of attention and effort that one devotes to learning may be affected by one's motivation. Dislike of a teacher, for example, could seriously affect

language learning unless it is balanced by a high degree of motivation that enables one to persist.

There is no reason to suppose that some sort of special motivation or purpose is necessary for second-language learning. In general, there are a large number of variables involved in second-language learning, such as intergroup attitudes and climate, social situation, personality and self-confidence, desire to communicate with a particular person, to name just a few (MacIntyre *et al.*, 1998). In an actual classroom situation any one of them could affect motivation. Teachers are generally well aware of this possibility and often devise ways to increase positive motivation and attitudes (Crookes and Schmidt, 1991).

### 6.2.5.2 Attitude

A negative attitude towards the target language or its speakers, or the other members of the class, may also affect one's determination and persistence to be involved in the classroom and its activities (Gardner and Lambert, 1972; Oller *et al.*, 1977, 1978; Chihara and Oller, 1978; Gardner, 1985). This same negative attitude could impair memory functioning and detract from focusing on the target language. In the same way, any of a host of personality and sociocultural variables could have deleterious effects (Brown, 1987). Many variables, such as status and cultural background, become more potent with the age of the learner and are important considerations in the classroom learning situation.

This is not to say that attitude may not play a role in the natural situation as well. By 4 years of age children have developed attitudes towards language. They know how people react to different languages. For example, children may not wish to use their native, but foreign for this country, language outside of the home. They may prefer to conform to their peers and other members of the dominant language community.

## 6.3 Social situations affecting second-language learning

There are many social situations in which a second language is learned. Basically, we can cover the most important of them according to three categories, the natural, the classroom and community context. The natural situation in which a second language is learned is one that is similar to that in which the first language is learned. It can involve social situations such as those involving family, play, or the workplace. The classroom situation involves the social situation of the school classroom. Each of these types of social situations has its own advantages and disadvantages. The community context allows students to have access to a natural situation outside of the class and thereby supplement their classroom learning.



### 6.3.1 The natural situation

#### Characteristics of the natural situation

A natural situation for second-language learning is one where the second language is experienced in a situation that is similar to that in which the native language is learned. That is, language is experienced in conjunction with the objects, situations, and events of everyday life. The paradigm case would be that of a young child going to live in another country and learning that country's language, not by any explicit teaching, but by interacting with playmates. For example, an English-speaking 5-year-old girl from New York goes to Tokyo with her parents. Through playing with Japanese children, she soon learns Japanese. In fact, she learns the language in less than a year, which is not uncommon for children this age, and her speech is indistinguishable from that of native speakers. *A child can learn a second language faster than the first language!*

#### With age, language is more essential for social interaction

It is important to note that for adults, social interaction mainly occurs through the medium of language. Few native-speaker adults are willing to devote time to interacting with someone who does not speak the language, with the result that the adult foreigner will have little opportunity to engage in meaningful and extended language exchanges. Adult second-language learners will typically have significantly fewer good language-learning opportunities in a new language community than will children. If the adults mainly stay at home, they will not be able to meet and talk much to native speakers. Going shopping, going to the bank, and other such chores, while beneficial, are very limited in time and scope. Second-language interactions in the workplace could also be very limiting, for, because of their lack of second-language ability, adult learners would not be hired to do work that required native speakers to linguistically interact with them in any depth.

In contrast, the young child is often readily accepted by other children, and even adults. For young children, language is not as essential to social interaction. So-called 'parallel play', for example, is common among young children. They can be content just to sit in each other's company speaking only occasionally and playing on their own.

#### Older children can have problems

Sometimes older children may not want to identify with a new community and will consequently resist learning the new language. Preston (1989) suggests that because children have not yet developed their own identities, they may be more accepting of the social norms of a new community. Thus, while younger children will be more likely to accept learning a new language and the culture it involves, older children may strive to maintain

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their own identity and cultural beliefs by avoiding situations that would expose them to using a language and culture that might challenge their view of themselves.

Conscious willingness to communicate is also considered critical for acquiring and improving a foreign language. In a series of studies conducted with Japanese high school students who came to the United States to study English and experience a different culture, participants pointed out that 'taking initiative to communicate with American classmates or host families' helped them gain confidence and improve their language skills (Yashima *et al.*, 2004). Other studies (e.g. MacIntyre *et al.*, 2002, among many others) confirm the view.

## Conclusion

The opportunities to experience language in a natural situation decline with age. This is indicated in Table 6.1, where young children are assigned a *High* value but adults are assigned a *Low* value.

### 6.3.2 The classroom situation

The classroom is isolated from other social life

The classroom for second-language learning is a planned situation. As we all know, physically, there is a room that is isolated from the rest of social life. In the room there is a teacher and a number of students. The teacher is the one who knows the second language and the students are there to learn the language. In the enclosed space of the classroom, nothing happens (linguistically) unless the teacher makes it happen. Students do not act on their own but follow the directions of the teacher. All other aspects of life are suspended or subordinated to language learning. This, of course, is very different from the home or community where a lucky second-language learner would eat at a table with others, walk around doing things, work in the garden, go for a drive, etc., all the while hearing and using the second language in conjunction with these activities.

Learning language as part of a group and not as an individual

There are other characteristics of the planned classroom situation that distinguish it from the natural situation. These include social adjustment to group process (individuals must subordinate their behaviour and follow classroom procedures for the benefit of all), the need to attend class in order to learn, the need for long periods of concentration, and, when required, having to do home study.

As far as language is concerned, the explicit teaching of grammatical structures and rules may be involved, depending on the method used (see Chapter 7 on second-language teaching methods). Using books and taking

notes are often expected of the student. Students have to get used to learning language as an academic subject. Thus, when considering overall the demands of the classroom situation, it is clear that the older one is, the better one is able to adjust and function within that situation. Young children often will not do as well as older children and adults.

## Conclusion

Generally, the ability to learn in a classroom setting improves with age because older children and adults can adapt better to the classroom regimen and are more receptive to materials taught through explication. Thus, a *High* is assigned to adults in Table 6.1. A *Low*, though, is assigned to young children. To the extent that the children's second language experience in the classroom can be one of learning through play, this value can be raised – even to *High*, in the proper setting with the right teacher.

## 6.3.3 Who is better? Children or adults?

### 6.3.3.1 In a natural situation

#### Predicting from the values in the table

In the natural situation, *younger children will do best*. Looking along the line, we have a *High* on Natural Situation and a *High* on Inductive. (The *Low* on Explicative is not relevant here because in the Natural Situation learning is through induction not explication.) There are *Highs* on both Memory and Motor Skills.

Adults have a *Low* on Natural Situation and *Highs* on both Inductive and Explicative intellectual learning. Unfortunately, the *High* on Induction does not help much in learning syntax because the adult learner does not get enough relevant language and non-language data for analysis through the Natural Situation. Explication is not relevant to the Natural Situation because rarely will people be able to explain grammatical points in the learner's native language (in the rare event that they would want to). Given these facts in addition to the *Medium* on Memory and the *Low* on Motor Skills, the adult would be expected to do quite poorly.

Older children would do better than adults because they are *Medium* on Natural Situation and *Medium/High* on both Memory and Motor Skills.

The natural situation is more favourable to children because adults generally undergo a marked decline in the quality and quantity of the social interaction conducive to good language learning. Psychologically, while both children and adults have optimal powers of induction, and are able to induce the grammar of a second language more or less equally well, nonetheless, it will be easier for children to learn syntax than it will be for adults.

### Conclusion

In the natural situation of second-language learning, young children will do better than adults, with older children doing better than adults too.

#### 6.3.3.2 In the classroom situation

In the classroom situation, *adults will do better than young children*, because not only are they better in explicative processing but, simply put, they know how to be students. They have sufficient maturity to meet the rigours of a formal learning environment, where concentration, attention, and even the ability to sit still for a long time all play a role in learning. Older learners have cognitive experience lacking in small children, and, thus, can be better learners (Edwards, 2004). Matsui (2000) found out that experience with the native language helps adults even to achieve near-native level of pronunciation if given explicit instruction. In a classroom-based study comparing junior high school students with elementary school students (Politzer and Weiss, 1969), the older students scored higher on all tests.

Because the older child's memory and motor skills are better than the adult's, the advantage in explicative processing enjoyed by the adult may not be sufficient to overcome the disadvantages experienced in these areas. Thus, *the older child will probably do better than the adult* in the classroom situation. Research from as long ago as 60 years (Thorndike, 1928; Cheydeur, 1932) has yielded the same result. The best age to learn a second language in the typical explication classroom situation is probably that age where the individual retains much of the memory and motor skills of the very young, but where the individual has begun to reason and understand like an adult. That age would probably be somewhere around 10 years.

### Conclusion

In the classroom situation, older children will do best. Adults will do better than young children to the extent that the young children's classroom is not a simulation of the natural situation.

#### 6.3.4 ESL or EFL community context

Language community context: English as a Second Language (ESL) or English as a Foreign Language (EFL)

Whether the classroom is in a school that is in a community where the second language is spoken is a matter of some importance, for this will allow students to benefit from both a natural situation outside the class and their classroom learning. Thus, for example, Pakistanis learning English in a classroom in London will have beneficial language experiences outside the classroom that Pakistanis learning English in a classroom in Karachi will

not. The former (learning English in London) is an English as a Second Language (ESL) context while the latter (learning English in Karachi) is an English as a Foreign Language (EFL) context. Because the ESL context provides more language-learning opportunities for the second-language learner through exposure to natural situations outside the classroom, such learners, unsurprisingly, will generally progress more rapidly than learners living in an EFL context (Fathman, 1978).

Furthermore, in comparing children and adults, we may say that, given that the natural situation benefits children more than adults, the ESL context will benefit children more than it will adults. Of course, the ESL context will benefit adults too, but to a lesser degree. Conversely, adults can do better in the EFL context where they can apply their superior cognitive skills for learning in the classroom situation.

## 6.4 Is there a critical age for second-language learning?

In Chapter 4, on wild and isolated children, the concept of a critical age for first-language learning was raised. Recall, if you will, that although solid evidence was lacking, some theorists hypothesized that there was an age (puberty, for example) beyond which it would be impossible to acquire a first language. Brain changes were suggested as a possible explanation for such a psychological barrier.

### Adults *can* learn a second language

It is reasonable to ask the same question about the acquisition of a second language. Is there any barrier to the learning of a second language and, if so, at what age does this barrier become operational? As far as adult second-language learning is concerned, we have the common observation that a very great number of adults do, in fact, learn the syntax of other languages perfectly. There are those who speak second languages so well that, on the basis of the grammar alone (not the pronunciation, which we shall deal with shortly), they would be judged native speakers.

### No demonstrated critical age for learning syntax

There are, however, studies which demonstrate a differential effect for the age at which acquisition of syntax began. Patkowski (1980) had native speakers of English rate the syntax of transcripts of spontaneous speech from immigrants to the USA who had entered before or after the age of 15. Transcripts were used to remove any possible influence of accent on the raters. The scores showed two very distinguishable groups: those who arrived before 15 years of age scored very high, while those arriving after

scored lower. Johnson and Newport (1989) found the same effect when they had native speakers of Korean and Chinese rate the grammaticality of English sentences. The earlier the age of arrival, the better the subjects were at determining the ungrammaticality of English sentences. A similar result was reported by Mayberry and Lock (2003): early exposure to language, no matter whether spoken or signed, contributed the most to later success in learning a second language.

On the other hand, research exists providing data to refute the claim of a critical period for the acquisition of grammar. The same Mayberry and Lock (2003) study still shows that adult learners can achieve a near-native competence of second-language grammar. In another study using a grammaticality judgement test in which native speakers of French were compared with high-level learners of French, no differences were detected between the two groups on their test scores or in the process of how they judged the syntax (Birdsong, 1992). Further research (van Wuijtswinkel, 1994; White and Genesee, 1996, Birdsong and Molis, 2001) shows that even learners who begin to acquire a language after puberty can reach native-speaker levels. It is safe to affirm the view that there is no critical age in terms of acquiring the syntax of a second language.

### Critical age for pronunciation

This brings us to pronunciation. Is it possible to learn a second language so well that one truly sounds like a native speaker? Mack (1986) and Perani *et al.* (2003) argue that even if highly competent second-language speakers *seem* to perform on a native level, experimental tasks will reveal the difference both in grammar and in pronunciation. Sebastián-Gallés and Bosch (2001) suppose that even pre-school age is already too late for acquiring near-native phonology. One psycholinguist, Thomas Scovel, has claimed that *no adult* can ever be successful in that regard. 'The critical period for accentless speech simply means that adults will never learn to pass themselves off as native speakers phonologically . . . ' (Scovel, 1988, p. 65). He describes this as the 'Joseph Conrad phenomenon', after the famous novelist and master of English prose, who, a native speaker of Polish, did not even begin to study English until he was 20. Scovel has in mind a certain category of adult second-language speakers: those who have mastered the grammatical and communicative complexities of another language but still speak with an accent.

We could add to this class two European-born US Secretaries of State, Henry Kissinger (under President Nixon) and Zbigniew Brzezinski (under President Carter). Both of these men speak English that is heavily accented with their native languages, German and Polish, respectively. In other respects, they excel in the English language. Kissinger came to the USA when he was 15 and Brzezinski came when he was 10 years old. While Kissinger was beyond our posited motor-skill critical age of 13 years, discussed

earlier in this chapter, Brzezinski was not, but still he spoke with an accent. A more recent example of a foreign-born United States official is Arnold Schwarzenegger, who became governor of California in 2003. Born in Austria, he moved to the United States when he was 21. At present he appears to speak English with near-native speaker syntax, although his strong German accent may often obscure that fact!

However, there is a growing body of research that challenges any strong criterion of a critical period for accentless acquisition of a language such as the one that Scovel proposes. Some adults *do appear* to pick up accentless speech. Neufeld (1978) trained adult learners in the pronunciation of Chinese and Japanese. Judged by native speakers, half of them were able to pass as native. Furthermore, in two recent studies on this question, Bongaerts and associates (Bongaerts *et al.*, 1995, 1997) argue that there were flaws in studies by researchers who claimed that late learners could not acquire correct pronunciation. The flaw was that in subject selection advanced learners were not included. Correcting for this error by including highly successful learners, Bongaerts and associates found that they could indeed pass for native speakers on a number of criteria. They suggest that 'a very high motivation . . . continued access to target language input . . . [and] intensive instruction in the perception and in the production of the speech sounds' (pp. 462–3) were instrumental for these late language learners' acquisition of native-like pronunciation.

Matsui (2000) refers to a number of most recent studies proving that some adults can pick up near-native foreign language pronunciation even without explicit instruction. Current neurological research of blind people suggests that the human brain retains its flexibility throughout life, and changes to adapt language challenges even for older people. Special brain exercises are even reported to help people regain language functions despite various deficits (Ariniello, 2000). Perception training, for example, resulted in long-term improvements in Japanese adults' perception and production of English words with 'r' and 'l' sounds (Akahane-Yamada *et al.*, 1996), and in Korean adults' perception and production of English vowels (Yeon, 2003).

Thus, while we would agree with Scovel that in second-language acquisition there is no critical age for syntax, we cannot agree that there is an absolute critical age for pronunciation. Native-speaker pronunciation may well be achieved by some adults.